

Fluid Mechanics MCQ Question Answer

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Question: 1. In a depressed nappe

- Option A. The pressure below the nappe is atmospheric
- Option B. The pressure below the nappe is negative
- Option C. The pressure above the nappe is atmospheric
- Option D. The pressure above the nappe is negative

Question: 2. The product of mass and acceleration of flowing liquid is called

- Option A. Inertia force
- Option B. Viscous force
- Option C. Gravity force
- Option D. Pressure force

Question: 3. The pressure of the liquid flowing through the divergent portion of a Venturimeter

- Option A. Remains constant
- Option B. Increases
- Option C. Decreases
- Option D. Depends upon mass of liquid

Question: 4. The rise of liquid along the walls of a revolving cylinder about the initial level is _____ the depression of the liquid at the axis of rotation.

- Option A. Same as
- Option B. Less than
- Option C. More than
- Option D. None of these

Question: 5. A Piezometer tube is used only for measuring

- Option A. Low pressure
- Option B. High pressure
- Option C. Moderate pressure
- Option D. Vacuum pressure

Question: 6. The water pressure per metre length on a vertical masonry wall of dam is (where w = Specific weight of the liquid, and H = Height of the liquid)

- Option A. $wH/2$
- Option B. wH
- Option C. $wH^2/2$
- Option D. $wH^2/4$

Question: 7. The pressure in Pascals at a depth of 1 m below the free surface of a body of water will be equal to

- Option A. 1 Pa
- Option B. 91 Pa
- Option C. 981 Pa
- Option D. 9810 Pa

Question: 8. A flow in which the quantity of liquid flowing per second is constant, is called _____ flow.

- Option A. Steady
- Option B. Streamline
- Option C. Turbulent
- Option D. Unsteady

Question: 9. The sheet of water flowing over a notch or a weir is known as

- Option A. Sill or crest
- Option B. Nappe or vein
- Option C. Orifice
- Option D. None of these

Question: 10. A submerged body is said to be in a stable equilibrium, if its centre of gravity _____ the centre of buoyancy.

- Option A. Coincides with
- Option B. Lies below
- Option C. Lies above
- Option D. None of these

Question: 11. The center of gravity of the volume of the liquid displaced by an immersed body is called

- Option A. Metacentre
- Option B. Center of pressure
- Option C. Center of buoyancy
- Option D. Center of gravity

Question: 12. Coefficient of velocity is defined as the ratio of

- Option A. Actual velocity of jet at vena contracta to the theoretical velocity
- Option B. Area of jet at vena contracta to the area of orifice
- Option C. Actual discharge through an orifice to the theoretical discharge
- Option D. None of the above

Question: 13. The region between the separation streamline and the boundary surface of the solid body is known as

- Option A. Wake

- Option B. Drag
- Option C. Lift
- Option D. Boundary layer

Question: 14. Free surface of a liquid behaves like a sheet and tends to contract to smallest possible area due to the

- Option A. Force of adhesion
- Option B. Force of cohesion
- Option C. Force of friction
- Option D. Force of diffusion

Question: 15. A perfect gas

- Option A. Has constant viscosity
- Option B. Has zero viscosity
- Option C. Is incompressible
- Option D. None of the above

Question: 16. The error in discharge (dQ/Q) to the error in measurement of head (dH/H) over a triangular notch is given by

- Option A. $dQ/Q = 3/2 \times (dH/H)$
- Option B. $dQ/Q = 2 \times (dH/H)$
- Option C. $dQ/Q = 5/2 \times (dH/H)$
- Option D. $dQ/Q = 3 \times (dH/H)$

Question: 17. Total pressure on a $1\text{m} \times 1\text{m}$ gate immersed vertically at a depth of 2 m below the free water surface will be

- Option A. 1000 kg
- Option B. 4000 kg
- Option C. 2000 kg
- Option D. 8000 kg

Question: 18. Buoyant force is

- Option A. The resultant force acting on a floating body
- Option B. The resultant force on a body due to the fluid surrounding it
- Option C. Equal to the volume of liquid displaced
- Option D. The force necessary to maintain equilibrium of a submerged body

Question: 19. Property of a fluid by which its own molecules are attracted is called

- Option A. Adhesion
- Option B. Cohesion
- Option C. Viscosity
- Option D. Compressibility

Question: 20. A weir, generally, used as a spillway of a dam is

- Option A. Narrow crested weir
- Option B. Broad crested weir
- Option C. Ogee weir
- Option D. Submerged weir

Question: 21. A balloon lifting in air follows the following principle

- Option A. Law of gravitation
- Option B. Archimedes principle
- Option C. Principle of buoyancy
- Option D. All of the above

Question: 22. An open tank containing liquid is moving with an acceleration on an inclined plane. The inclination of the free surface of the liquid will be _____ to the acceleration of the tank.

- Option A. Equal to
- Option B. Directly proportional
- Option C. Inversely proportional
- Option D. None of these

Question: 23. The loss of head due to friction in a pipe of uniform diameter in which a viscous flow is taking place, is (where R_N = Reynold number)

- Option A. $1/R_N$
- Option B. $4/R_N$
- Option C. $16/R_N$
- Option D. $64/R_N$

Question: 24. A streamline is defined as the line

- Option A. Parallel to central axis flow
- Option B. Parallel to outer surface of pipe
- Option C. Of equal velocity in a flow
- Option D. Along which the pressure drop is uniform

Question: 25. The error in discharge (dQ/Q) to the error in measurement of head (dH/H) over a rectangular notch is given by

- Option A. $dQ/Q = (1/2) \times (dH/H)$
- Option B. $dQ/Q = (3/4) \times (dH/H)$
- Option C. $dQ/Q = (dH/H)$
- Option D. $dQ/Q = (3/2) \times (dH/H)$

Question: 26. When the Venturimeter is inclined, then for a given flow it will show _____ reading.

- Option A. Same
- Option B. More
- Option C. Less
- Option D. None of these

Question: 27. The tendency of a liquid surface to contract is due to the following property

- Option A. Cohesion
- Option B. Adhesion
- Option C. Viscosity
- Option D. Surface tension

Question: 28. When a body is placed over a liquid, it will sink down if

- Option A. Gravitational force is equal to the up-thrust of the liquid
- Option B. Gravitational force is less than the up-thrust of the liquid
- Option C. Gravitational force is more than the up-thrust of the liquid
- Option D. None of the above

Question: 29. The density of water is 1000 kg/m^3 at

- Option A. 0° C
- Option B. 0° K
- Option C. 4° C
- Option D. 20° C

Question: 30. A fluid which obeys the Newton's law of viscosity is termed as

- Option A. Real fluid
- Option B. Ideal fluid
- Option C. Newtonian fluid
- Option D. Non-Newtonian fluid

Answer Sheet

1	B	
2	A	
3	C	
4	A	
5	C	
6	C	
7	D	
8	A	
9	B	
10	B	
11	C	
12	A	
13	A	
14	B	
15	D	
16	C	
17	A	
18	B	
19	B	
20	C	
21	D	
22	B	
23	C	
24	C	
25	D	
26	A	
27	D	
28	C	
29	C	
30	C	